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820 South Fifth Place Road
Mattoon, IL 61938

2008 CSO Report

2008 CSO Appendices

MATTOON WASTEWATER TREATMENT PLANT

Plant Site and General Information

The Treatment Facility is located at 820 South 5th Place, Mattoon IL 61938 and is sited on approximately thirty-five acres on the banks of the Kickapoo Creek. This site has space to upgrade for years to come and space for future expansion space is currently being utilized as farmland. It is normally staffed by 6 - 8 operations personnel including the Wastewater Superintendent.

Design Average Dry Weather Flow for the facility is 5.3 MGD (Million Gallons Per Day), and Design Maximum Wet Weather Flow is 14 MGD.

Excess Flows in addition to that listed above such as during heavy rains is also permitted by the NPDES as a Treated CSO and by storing up to 16 million gallons in a Excess Flow Storage Basin located on the plant grounds.

Flows in excess of 36 MGD in a single day (First Flush) are controlled by the NPDES as well as untreated CSOs of which there are three.

Plant History

- * 1941 - Original startup (this was a WPA Project)
- * 1955 - First upgrade
- * 1971 - Second upgrade
- * 1974 - Third upgrade
- * 1988 - Fourth upgrade
- * 2001 - Fifth upgrade
- * 2007 - Automation upgrade (begins in Spring)

Lift Stations and Sewer Lines

There are approximately 120 miles of sewer which serve residents and industrial users of the City of Mattoon.

- o All sewer lines have been installed with at least a two percent grade to facilitate gravity flow from homes and industries to the WWTP.
- o Manholes have been installed throughout the sewer system to allow access for maintenance.
- o Lines are inspected, cleaned, and maintained by Mattoon Public Works Department
- o Aged and failing sewer lines are slip lined or replaced
- o Many of the service lines are dedicated sewer lines, but many combined collection lines remain in service and are being replaced by separate lines when they begin to show signs of failing and need replaced.

The city presently maintains twelve collection system lift stations

- o A Lift Station lifts the sewage back to the surface where it continues to gravity flow either to another lift station or into the wastewater treatment plant. Lift Stations are necessary when the inclined sewer line reaches a depth to where it is economical to pump sewage back to the surface where it continues to gravity flow to the Wastewater Treatment Plant.

- o Sewage collected in Lift Stations located in areas that are much lower in elevation than the plant, are pumped (force main) directly to the head works of the plant.

- o See attached city map showing location of twelve lift stations

Plant Influent and Industrial Pretreatment Program

Consists of domestic sewage (residential) and industrial waste (processing by-products).

The City of Mattoon operates a USEPA Approved Pretreatment Program to provide improved protection for it's citizens safety and local waterways.

This Program allows the Wastewater Treatment Plant to issue and monitor Pretreatment

Permits under its own authority unlike other Illinois facilities which rely on outside governmental agencies to issue permits.

There are several Significant Industrial Dischargers to the plant, and a single Categorical Industrial Discharger to the plant.

National Pollutant Discharge Elimination System (NPDES)

Sets treatment plant's solids, nutrient, metal and pollutant discharge limits for Plant Influent and Effluent samples which are tested and analyzed weekly.

From this data and combined with other information such as flow records, weather, and process control data a Discharge Monitoring Report (DMR) is prepared and sent to Illinois Environmental Protection Agency each month.

Sludge Handling and Disposal

Land Application

City has sludge application permit issued by Illinois EPA to apply Class "B" Bio-solids. Bio-solids are land applied in liquid form using a subsurface applicator or solid form using a dry spreader and then incorporating it into the soil by disk plow.

Bio-solids to be land applied are tested by a certified lab and results on metal content and fecal coliform in accordance with the USEPA 503 Sludge Regulations.

Facility Processes and Equipment

Various equipment and processes are employed by this Facility to treat wastewater they are

listed without definition as follows:

Flow Treatment

- * Fine Screens
- * Grit Removal
- * Primary Tanks
- * Activated Sludge or Aeration Tanks
- * Secondary Clarifiers
- * Solids Wasting (into aerobic digesters)
- * Sand Filters
- * Discharge into Kickapoo Creek

Solids Handling

- * Aerobic and Anaerobic Digesters
- * Gravity Belts (concentrators)
- * Liquid Sludge Storage and Loading

- * Sludge Drying Beds
 - o 44 Beds
- * Land Application
- * Land Fill Intermediate or Final Cap